1994

Climatological Observers' Newsletter

For England
and Wales

The Met. Office

CLIMATOLOGICAL OBSERVERS' NEWSLETTER
FOR
ENGLAND AND WALES

ISSUE NO. 23

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Met. O (OP)1a
Observation Provision Branch
Room 105
London Road
Bracknell
Berkshire
RG12 2SZ

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EDITORIAL

Hello again - it's Newsletter time!

On the opposite page we have an introduction to Phil Wills, the "new" member of our "pack". Other interesting articles have been provided by: Wendy Hibbitt - a history of Writtle, Mike Cinderey - how he inputs and uses the CAWS format at Carlton-in-Cleveland and David Fellowes of Clarborough (now West Retford) - on his course at Shinfield. Help from Treknow - Charlie Tapper's cartoon on page 15 is well worth studying! Thanks go to all contributors.

With three managers roaming the countryside we will be visiting even more of you this year (about 130) but your friendly neighbourhood Met. Offices will no longer be able to see so much of you. This is sad but the Office has been forced to save time and, therefore, money at outstations so you'll have to put up with Phil, George or me on your doorstep (we're even nicer after a cuppa).

As you may have noticed we had some success in convincing the "Powers" that a wallchart should be sent out at Christmas (who knows we may be able to do so again this year!). Once again, however, supplies of equipment and stationery have been intermittent (very meteorological). Strong words from this section have convinced the Stores section that we must be able to despatch equipment rapidly. We will now produce a forecast of equipment needs so there should be enough stock to cover **your** needs. Stationery is much more difficult to sort out. The Common Services Establishment at Llangenech (they store and distribute your forms and envelopes) do not "belong" to the Met. Office so we can't put much pressure on them and they are too far away for a "personal visit". All I can do is apologise for any problems with your stationery - please let me know if you run short of or, indeed, no longer need certain forms.

Those of you who (sometimes) receive the Monthly Weather Report will be heartened to hear that the Branch which produces it feel they have finally got to grips with the system. From now on, we are told, you will receive two reports monthly until the reports are only 6 months old. I can only hope this actually does happen! If any of you who don't receive the Monthly Weather Reports want to do so (they are free to you) just let me know and I'll add you to the list.

Major changes, which will affect those of you observing at Health Resorts, are taking place. The time of the evening observation is likely to change to 5pm and a new telephone system will be used to send those observations. Plans are afoot to make it possible for **some** Health Resorts to drop the 0900GMT observation although we hope we wont lose too many - your data is used by our Research Branches!

I and my fellow "pack" members look forward to seeing many of you this year, take care of yourselves. All the best.

Shirley

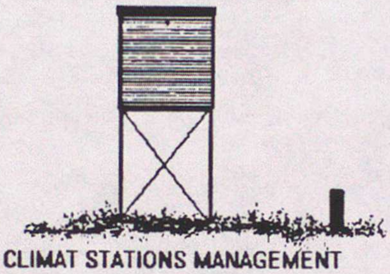
It's now Christmas week and we are running down for the holiday. Shirley has suggested that I write a profile of myself for the Newsletter, to which George is in wholehearted agreement. So I'm afraid ladies and gentlemen of the CLIMAT world, I have been forced to bite the bullet and let you have the low down.

I was born in Exeter 46 years ago and spent the formative years in Newton Abbot, Devon. The son of a fish and chip proprietor I quickly gained the nickname "chippy". When it came time to leave school, I was asked what I would like to do, so enjoying the outdoor life I was advised to join the Met Office. This was back in the days when you only had to ask for a job and it was granted. Oh, that it were so today.

At my interview for the Met Office it was suggested that I might be required to work weekends, and might be required to work the occasional night shift. I then spent the next 25 years doing both!

On leaving the Training School - In those days we underwent 9 weeks of instruction on observing and chart plotting etc - I was asked where I would like to be posted and naturally I asked for the SW of England. I was offered Birmingham! After a three year posting to Germany to work at a Met Office on one of the RAF stations I was posted with my burgeoning family back to Exeter Airport where we spent 4 years near to grandparents and sandy beaches before going back to Germany. This time for almost five years.

On return to the UK on promotion, I was posted into the Upper Air Network to Hemsby, in Norfolk, where I spent my time launching weather balloons and watching Swallowtail butterflies on the Norfolk Broads. During my time at Hemsby I was posted to the Falkland Islands to open the new Met Office that was being built at Mount Pleasant Airport. (Of passing interest is the fact that the posting was organised by George Spence, who was at the time working in the Personnel Management section at Bracknell....... I have never really forgiven him for that!). It was a five month unaccompanied posting during which I spent 24 hours working followed by 24 hours sleeping drinking and learning how to stand up in the constant force 8 gales. The highlight of the trip was a fleeting glimpse of the Queen of the Island fritillary as it was whisked around at 50 m.p.h.! As you can imagine, butterflies on the Falkands spend a lot of time looking for each other.

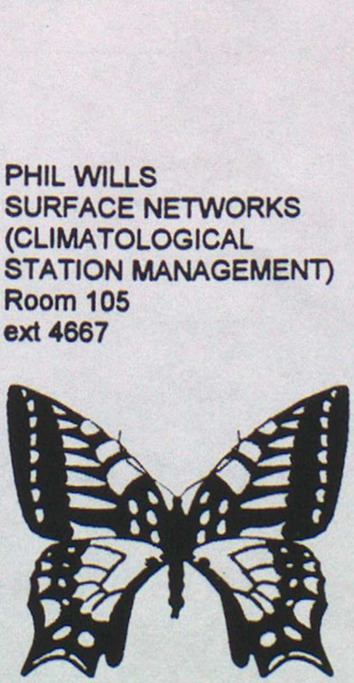


CLIMAT STATIONS MANAGEMENT

In 1989 I was again promoted and this time I was unable to resist the dreaded move to HQ at Bracknell (yes, thanks to good old George again!). I spent four years at the hub of the Upper Air Network as an administrator, an inspector of balloons and someone who explained to irate members of the public why it was necessary to launch equipment into the atmosphere on the end of a 17FT diameter balloon, which eventually burst and descended majestically on a parachute through their greenhouse causing untold mayhem. I enjoyed my work.

And now I find myself in the CLIMAT Stations Management Team with George and Shirley. Although I have only been in post for one month I have already taken my first tentative steps into the world of Climat inspections with a week out in Somerset and South Wales. It was very nice to meet you all and I look forward to meeting the rest of you in the coming years. Who knows, I might get to see some new butterflies as a bonus.

PHIL WILLS
SURFACE NETWORKS
(CLIMATOLOGICAL
STATION MANAGEMENT)
Room 105
ext 4667



CONTACT POINTS WITHIN OBSERVATION PROVISION BRANCH

SURFACE NETWORKS GROUP

Section: Climatological Station Management

Function: Liaison with observers. Queries on running a climatological station. Supplies of stationery, forms, equipment, sunshine cards and pocket registers. Site visits and changes.

Staff:

HSO George Spence	Ext. 4456
HSO Phil Wills	Ext. 4667
SO Shirley Hopkins	Ext. 4522

Address:
Meteorological Office
Met O (OP)1a
Room 105, London Road
Bracknell, Berks. RG12 2SZ

Section: Solar Radiation Network Management

Function: Administration and inspection of radiation stations.

Staff:

SSO Mike Collins	Ext. 4636

Address:
Meteorological Office
Met O (OP)1b
Room 104, London Road
Bracknell, Berks. RG12 2SZ

COMPUTER DATA ARCHIVING GROUP

Section: Quality Control

Function: Collection and quality control of climatological data.

Staff:

HSO Anne Tunnicliff	Ext. 6819
SO Mike Underdown	Ext. 6634
ASO Dave Forrester	Ext. 6822
ASO John Spafford	Ext. 6823
ASO Jan Lewandowski	Ext. 6824

Address:
Meteorological Office
Met O (OP)3a
Room 137, London Road
Bracknell, Berks. RG12 2SZ

Section: Planning and software development.

Staff:

HSO Margaret Elms	Ext. 6813

Address:
Meteorological Office
Met O (OP)3b
Room 133, London Road
Bracknell, Berks. RG12 2SZ

☎ **Telephone:** Bracknell (0344) 85 plus the extension number.

ROYAL METEOROLOGICAL SOCIETY

Field Study Courses on Weather 1994

Understanding Weather 29th July - 5th August **£220**
Malham Tarn Field Centre, Yorkshire
Directed by Dr Keith Weston, University of Edinburgh and Dr David Warren
A course in which you are immersed in the weather and all things meteorological in beautiful surroundings 1300 feet up in the Yorkshire Dales. A full week's programme of talks, outdoor work and films includes learning about weather satellites, a forecasting competition and the launching and tracking of hydrogen-filled balloons. Useful for teachers and students.

Weather and Climate 24th - 31st August **resident £220**
non-resident £150

The Leonard Wills Field Centre, Nettlecombe Court, Somerset
Directed by Dr Bob Riddaway and Dr Geoff Jenkins, Meteorological Office
Do you want to understand the weather and find out how to make your own forecasts? Do you want to track weather balloons? Do you want to understand the debate about global warming and other environmental issues? If so, this is the course for you. The course is suitable for anyone with a lively curiosity and an interest in weather and climate. It is useful for teachers and students.

Mountain Weather 2nd - 3rd April 26th - 27th November **£115**
Directed by Mr Terry Spalding, Meteorological Office
Weekend courses for those who go into the mountains for work or for leisure, including leaders of parties, those working for Mountain Leadership Instructor qualifications, Duke of Edinburgh Award work etc. Includes one field trip and informal lectures.
Bookings (including deposits of £50 deducted from the course fee of £115) to National Mountain Centre, Plas-y-Brenin, Capel Curig, Gwynedd, LL24 0ET

For further details of the above courses, please write, stating your specific interest to: The Executive Secretary, Royal Meteorological Society, 104 Oxford Road, Reading, Berkshire, RG1 7LJ

Weather Under Sail Aboard "Hoshi" 10th - 17th September **£350**
Directed by Penny Tranter from the BBC Weather Centre and run in conjunction with the Island Cruising Club sailing from Salcombe in Devon.
The cruise is aboard the Club's seventy-two foot Edwardian gaff- schooner "Hoshi", which has berths for eight crew plus Penny Tranter and the Club's professional Skipper, Mate and Cook. Learn very directly how weather influences the planning and handling of a classic yacht at sea in the English Channel. There's a good chance of going to France so you'll need a passport plus some spending money; the Island Cruising Club provides just about everything else.

Weather Under Sail Aboard "Provident" 14th - 21st May **£330**
Directed by Peter Cockcroft from the BBC Weather Centre and run in conjunction with the Island Cruising Club sailing from Salcombe in Devon.
The cruise is aboard the Club's seventy foot ex-Brixham trawler "Provident", which has berths for eleven crew plus Peter Cockcroft and the Club's professional Skipper, Mate and Cook. Learn very directly how weather influences the planning and handling of a classic yacht at sea in the English Channel. There's a good chance of going to France so you'll need a passport plus some spending money; the Island Cruising Club provides just about everything else.

Further details of the above two courses are obtainable directly from the Island Cruising Club, Island Street, Salcombe, Devon, TO8 8DR

NEWS OF STATIONS

NEW STATIONS

__During June 1993__

Normanby Hall (Humberside) - Mr N Jacques is running a station at Normanby Hall Country Park. Miss W Watt is the observer.

Teffont Magna (Wiltshire) - Mr A Vining is running a station at Farmer Giles Farmstead, Mr J Edginton is the observer.

Lanton (Northumberland) - Mr P Backhouse is observing at the Lanton Estate.

__During July 1993__

Cheswick (Northumberland) - A private estate where Colonel H Crossman is observing.

Porthmadog (Gwynedd) - Mr D Morrow is the observer at the Porthmadog Golf Club.

Hamsterley (Tyneside) - Mrs V Clemitson observes at her private farm.

Westgate (Co. Durham) - Mr J Say is the observer at this private farm.

__During August 1993__

Duncton (West Sussex) - At St Michaels Burton Park Mrs E Blows is the observer.

Melton Constable (Norfolk) - Mr R Haddow is observing at G C & F C Knight Ltd.

__During December 1993__

Drumburgh (Cumbria) - Mr C A Matthews is a private observer.

◆ ◆ ◆ ◆ ◆ ◆ ◆ ◆

COMING SOON

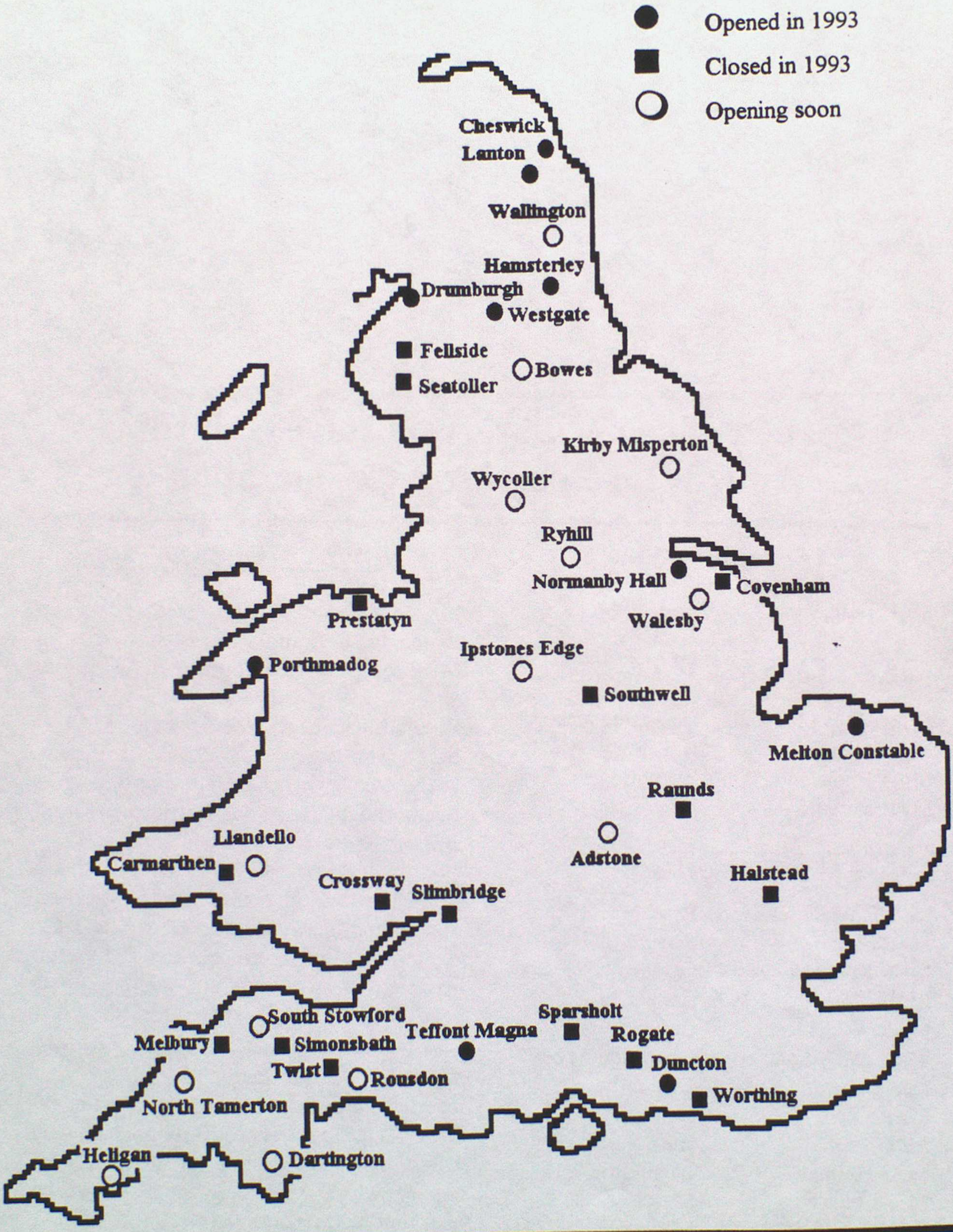
Wallington (Northumberland)
Rousdon (Dorset)
Walesby (Lincolnshire)
Adstone (Northamptonshire)
Kirby Misperton (North Yorkshire)
Bowes (Co. Durham)
Dartington (Devon)
Heligan (Cornwall)
Ryhill (West Yorkshire)
Wycoller (Lancashire)
North Tamerton (Cornwall)
South Stowford (Devon)
Llandeilo (Dyfed)
Ipstones Edge (Staffordshire)

◆ ◆ ◆ ◆ ◆ ◆ ◆ ◆

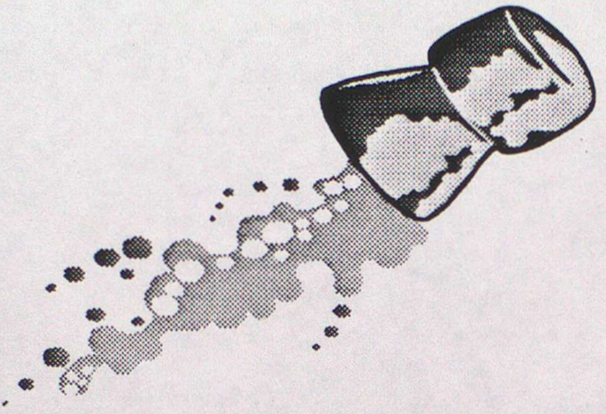
CLOSED STATIONS

Fellside (Cumbria) - Outdoor Education Centre - Unable to meet 7 day commitment.
Sparsholt (Hampshire) - Sparsholt College - Cost of running the station too high for College.
Covenham (Lincolnshire) - Anglian Water Services- Building work on the met. site.
Raunds (Northamptonshire) - Sadly, Mr T C Smith has died.
Slimbridge (Gloucestershire) - Wildfowl Trust - No longer have anyone available to do observations.
Halstead (Essex) - Ramsey School - No replacement observer can be found.
Simonsbath (Devon) - NRA - Observer has moved away.
Twist (Devon) - NRA - Observer suffering from ill health.
Rogate (Hampshire) - Kings College - Field centre land sold.
Prestatyn (Clwyd) - Prestatyn Borough Council - No replacement observer could be found.
Worthing (Sussex) - Worthing Borough Council - Unable to continue because of financial cut-backs.
Carmarthen (Dyfed) - Carmarthen Museum - Many missed observations as no deputy available also too sheltered a site.
Melbury (Devon) - NRA - Observer retired.
Seatoller (Cumbria) - Lake District National Park - Cannot maintain 365 day commitment.
Southwell (Nottinghamshire) - Brackenhurst College - Ceased observing in May.
Crossway (Gwent) - Hilston Park Centre - Can not maintain weekend observing.

Stations opened and closed in 1993


● Opened in 1993
■ Closed in 1993
○ Opening soon
Cheswick
Lanton
Wallington
Hamsterley
Drumburgh
Westgate
Fellside
Seatoller
Bowes
Kirby Misperton
Wycoller
Ryhill
Normanby Hall
Covenham
Walesby
Prestatyn
Porthmadog
Ipstones Edge
Southwell
Melton Constable
Raunds
Adstone
Halstead
Llandeilo
Carmarthen
Crossway
Slimbridge
South Stowford
Melbury
Simonsbath
Teffont Magna
Sparsholt
Rogate
Duncton
Worthing
Twist
Rousdon
North Tamerton
Heligan
Dartington

CONGRATULATIONS!



The Following Observers Have Gained Awards for Long-term Co-operation

FOR 30 YEARS AND OVER

Mr C Fear	Rodney Stoke

FOR 20 YEARS AND OVER

Father D B Maitland	Downside Abbey
Mr M Beadle	Hazelrigg
Mr A Bignall	Edenbridge
Mr R Mitchell	Harrogate

FOR 10 YEARS AND OVER

Mr J E Wakefield-Jones	Batchley
Mr P Skeels	Boxworth
Mr R Marshall	Caldecott
Mr D Young	Cockle Park
Mr S W Jackson	Coventry
The Rev. A Lambert	Downside Abbey
Mrs S Satterley	Exmouth
Mr P Eden	Hampstead
Mr G Peel	Harrogate
Mr P Herman	Lambourn
Mrs F Payne	Macclesfield
Mr A Buckley	Macclesfield
Mr K Daglish	Scarborough
Mr M Crookes	Warsop

NEWS OF OBSERVERS

Mr Q D Pope, who observes at Woburn Experimental Station, has been awarded a MBE for his services to the Met. Office.

We note with regret the deaths of Mr T C Smith who observed at Raunds for many years, Mr Town, one of the observers at Scarborough, and Mr Parmenter from Bognor Regis.

Mr Marrison, inventor of the Marrison Gauge and observer at Minehead, and Mr Colin Smith long-time observer at Everton have retired.

PLEASE - let me know if **YOU** or your deputies are due an award for 10, 20 or 30 years. Our old records are not all they should be. Recognition of the work of stations which have been open for many years but whose observers change often is also being made. I don't like missing anyone out! (ED.)

High Standard 1993 Awards

Caldecott	4341	Mr R Marshall
Durham University	2165	Mrs A Warner
Hastings	5490	Mr R Garrad
Keele University	4617	Mr M Edge
Lyonshall	4858	Mr R H Green
Minehead	8618	Mr E Marrison
Newtown Linford	4316	Mr E Bonser
North Wyke	8836	Mr K Tyson
Penhow	8562	Mr J Pitcher
Presteigne	8343	Mr G Southern

Also mentioned in despatches:

Alice Holt	Mr D Durrant	Cavendish	Mr M Pizzey
East Malling	Mr M Wickenden	Low Etherley	Mr K Cook
Reading Univ.	Mr K Spiers	Southport	Mrs K Mills
Westonbirt	Mr T Trask	Widdybank Fell	Mr I Findlay

Awards are sent to the ten stations whose monthly returns are considered, by the Quality Control team, to be the neatest and most accurate. We try to reward **EVERY** good station eventually but there are always more than ten nominated so priority is given to stations who have not yet won the award. Being ommitted from the list doesn't necessarily mean that the quality of your observations has decreased. (ED.)

A HISTORY OF WRITTLE WEATHER STATION

1993 saw the 100th Anniversary of the foundation of the Writtle College and the **50th continuous year of weather recording at Writtle.**

Rainfall records have been kept at the College since 1941 but in January 1943 the first comprehensive log books were kept on a regular basis with figures being sent to the Meteorological Office each month.

Originally a wether station had been set up in 1936 at County Gardens in Rainsford Road by Mr Fred (Pop) Shemmings, who was Head Gardener,and it remained there until about 1939. After the end of the war, when lectures began at Writtle, Fred Shemmings was transferred to Writtle as Head Gardener and the weather station was set up on a site here. There is a report that, when Fred went to the station on the morning of 24 February 1947, his hair stood on end when he read the minimum temperature of 3F (-16.1C). Another time, apparently, a student drove right across the site on his runaway tractor! Fred Shemmings retired in March 1951 and his place was taken by Reg Hill who became Head Gardener with responsibility for the Weather Station.

The sunshine recorder plinth was built in late 1951 and sunshine was recorded from January 1952. In 1961 30cm soil temperature recordings started. Recordings were made from this site by the Gardening Department with Reg Hill in the post until mid 1955 when others took over. Monthly records were sent to the Met. Office and in 1958 direct punching of observational data was made on to "Hollerith Cards" for machine processing.

When the Hubert Ashton building was started, in 1962, the weather station was moved to a new site on Barnfield. There have been a succession of observers: Michael Manning, Mr Mellor, Mr W Pooley, M Cunningham, John Williams and finally myself in 1987.

With the opening of the Crops Teaching Centre in the 1970's the responsibility for the weather station passed to the Science Department. A Plessey automatic weather station was installed at Barnfield for testing. In January 1972 decimalisation changed the look of the log books with temperatures changing from Fahrenheit to Centigrade and rainfall from inches to millimetres.

In the 70's and 80's a computer link up with the Chelmsford Technical College made in-house processed of weather records available to schools and college students. From 1988 all the information was transferred on to a computer at the Crop Teaching Centre and records were studied to detect any trends in weather both by year and by season.

Weekly and monthly reports have been distributed to lecturers, for use in student classes, for many years and are sent out to many other interested organisations.

The weather has, for 50 years, been faithfully recorded every day, at 0900 hours GMT, at Writtle. The original log books give an insight into the various extremes of weather experienced here over the years. We have to thank all the observers, not only those already mentioned but others who have helped at weekends and Bank Holidays, for the wealth of knowledge passed down to us and for the dedication they have shown. It is not always a pleasant job recording the weather on some mornings particularly in gale force winds with driving rain or snow and when it has been an effort even to get to work.

SUMMARY OF 50 YEARS WEATHER AT WRITTLE

The warmest year was 1990 with an average mean temperature of 10.9C beating 1989 by 0.1C. The previous warmest spell was in 1945 and, in the late 50's and early 60's, there were several warm summers. Temperatures settled down for the remainder of the 60's and 70's with 2 cold years, in 1962 and '63. This was due, mainly, to the very cold spring and summer of 1962 and the very cold winter of 1963. Another cold year was 1986 but there were no very cold years.

There were 4 wet years, 1951,1958,1960 and then a gap until 1982. 1959 was the only dry year but, with wet years on either side, drought conditions did not develop as they did in 1955/6 and 1990/1. None of the years were either very wet or very dry.

It would seem that, in general, seasons compensate for each other, e.g. in 1976 a very dry winter, spring and summer was followed by a very wet autumn, giving only average rainfall for the year.

This article cannot hope to do justice to the vast amount of weather information on record at Writtle but further information can be obtained from me at the College. There is an interesting book called "The Essex Weather Book", by Currie, Davison and Ogley, from which some extra information has been gleaned for this article.

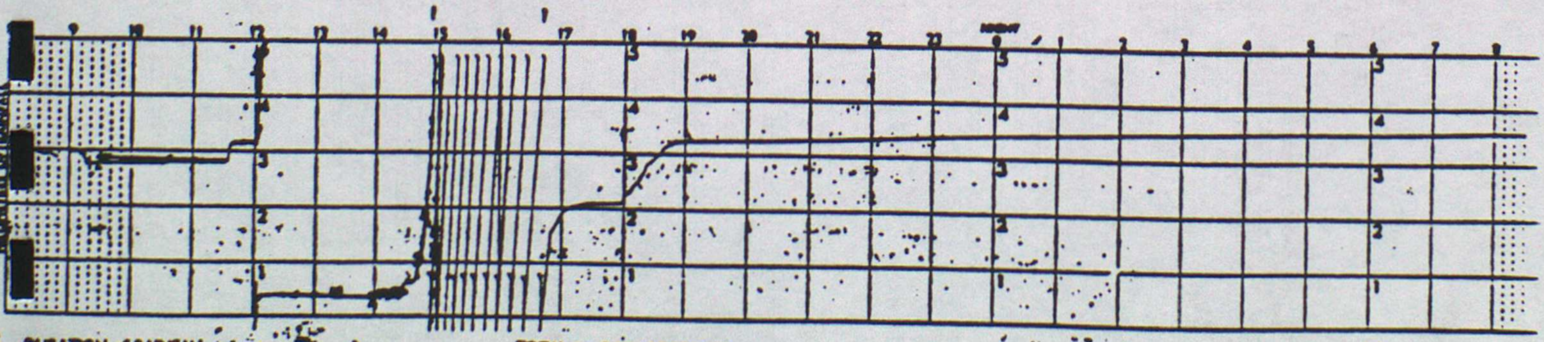
The recording rain gauge at Writtle is of the tilting syphon type which automatically empties itself when full. Charts are changed daily and sent to Anglian Water weekly. When rain falls a float in the chamber is raised and so is the affixed pen-arm. When it is full (5mm of rain) the chamber tilts and empties and the pen-arm drops to the bottom of the chart. The steeper the upward line the heavier the rainfall.

The chart below shows the intensity of the record amount of rain which fell at Writtle on 23 August 1987.

AUTOMATIC RAIN GAUGE CHART FOR AUG 23rd 1987

SAT/SUN

Station WRITTLE Lat. Long. H 15·2 ft. (M.S.L.) Month AUGUST Year 87 Time On 23rd h m Off 24th h m Marks at h m (G.M.T.) Sheet No.



DURATION of RAINFALL .... h.
(Duration at rate of 0·1 mm per hour or more)

TOTAL by RAIN RECORDER .... mm.

TOTAL by CHECK GAUGE 9h to 9h ....69.... mm.

Scales: 1 mm of rain = 10 mm. 1 hr. = 11·4 mm.

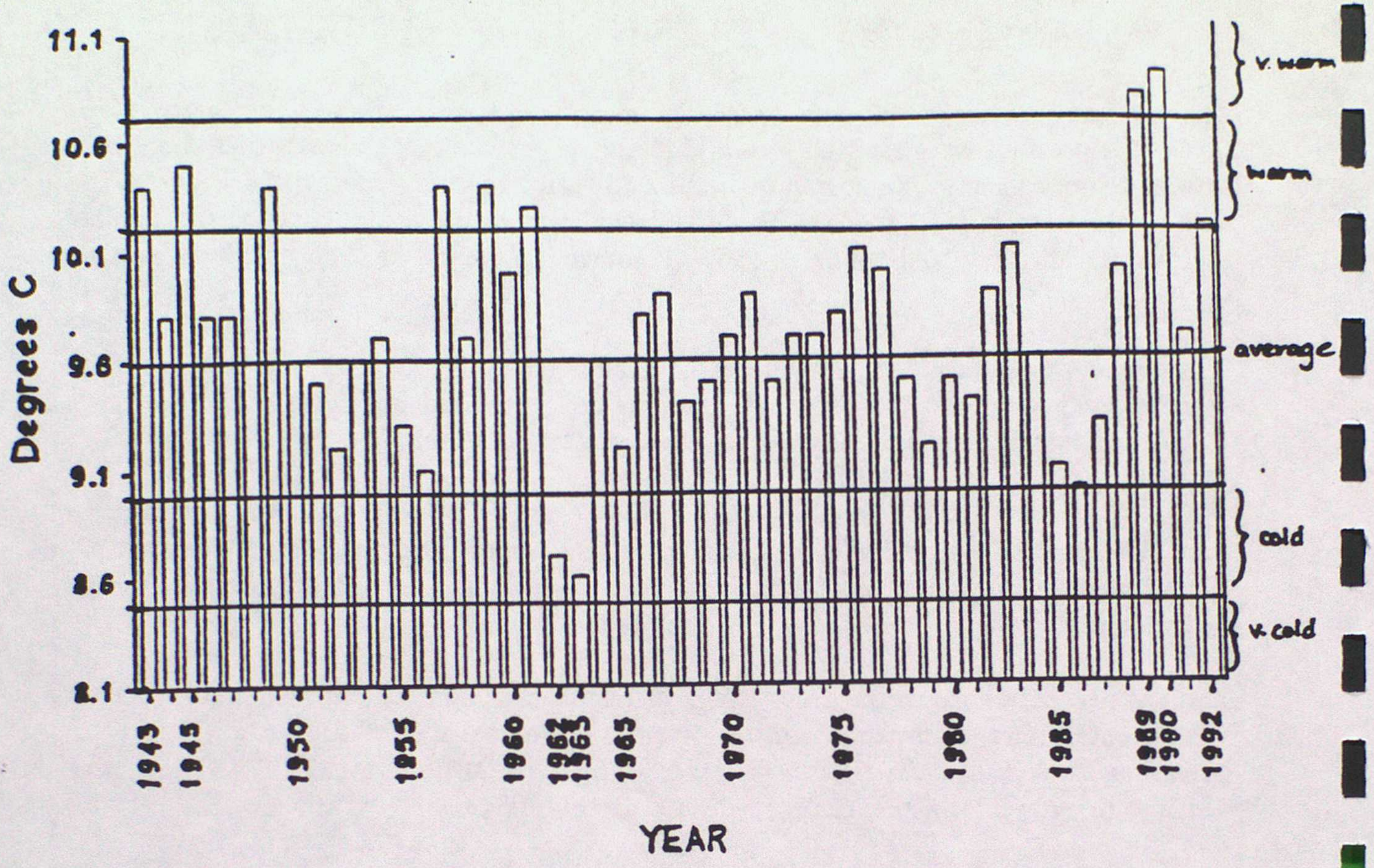
Size of chart = 304 x 88 mm.

Margins: Left. 9 mm. Right. Nil. Upper. 21 mm. Lower. 18

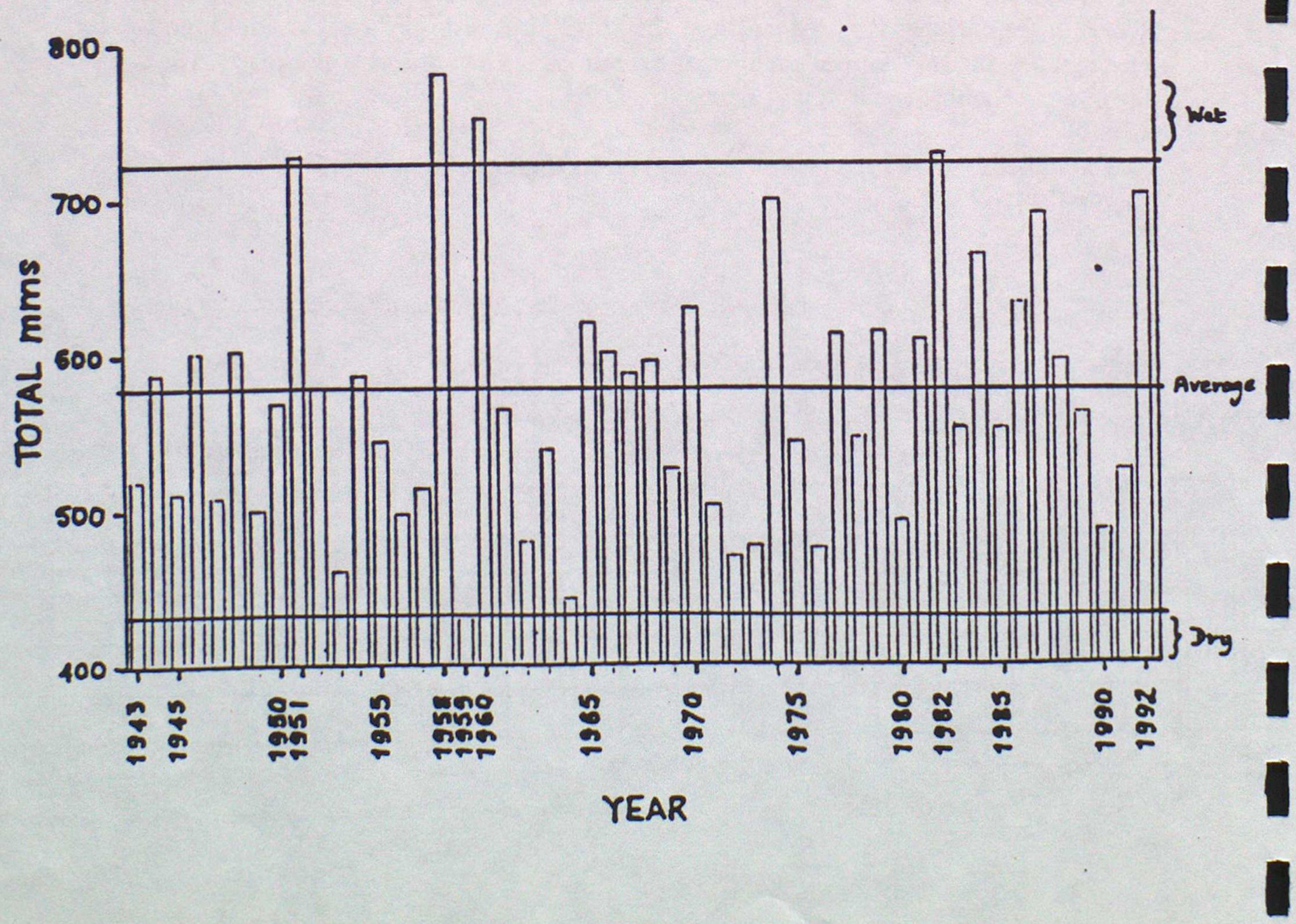
TOTAL RAINFALL 68 mms (2·7 ins

WRITTLE COLLEGE

MEAN TEMPERATURE 50 YR SUMMARY



TOTAL RAINFALL 50 YR SUMMARY



SUMMARY OF WEATHER EXTREMES AT WRITTLE 1943-1992

Daily Records			
Highest Maximum Temperature	35.2C	95F	3rd August 1990
Lowest Minimum Temperature	-18.0C	00F	13th December 1981
Lowest Grass Minimum	-23.2C	-10F	13th December 1981
Wettest Day*	68mm	2.7ins	23rd August 1987

Monthly Records			
Warmest Mean Temperature	18.9C	66F	August 1990
Coldest Mean Temperature	-2.6C	27F	January 1963
Wettest Month*	149.6mm	5.9ins	November 1970
Driest Month	0.5mm	.02ins	February 1991 March 1952
Snowfall Level Snow	37cm	14.5ins	February 1991
Drifts	59cm	23.2ins	March 1952

Yearly Records			
Warmest Mean Temperature	10.9C	51F	1990
Coldest Mean Temperature	8.6C	47F	1963
Wettest Year	780.2mm	30.7ins	1958
Driest Year	429.6mm	16.9ins	1959

NB. Mean Temperature = average of Maximum and minimum temperature.

* On 26th July 1941 99mm (3.9ins) of rain fell in less than 2 hours giving a total of 159.8mm (6.3ins) for July and making them the wettest day and month so far recorded.

SUMMARY OF SEASONS AT WRITTLE 1943-1992

Winter (Dec. Jan. Feb.)			30 Year Average		
Warmest Mean Temperature	1990	6.8C	4.0C	v warm	1943 1948 1949 1950 1957 1961 1967 1972 1974 1975 1988 1989 1990
Coldest Mean Temperature	1963	-0.9C	4.0C	v cold	1947 1953 1963 1979 1982 1985
Wettest Year	1990	86.6mm	45.2mm	v wet	1943 1951 1979
Driest Year	1992	15.4mm	45.2mm	v dry	1964 1976 1981

Memorable Winters

1947 Bleakest winter, snow and ice lasting from January to March. Rapid thaw caused widespread floods. February driest month in 50 years.
1952 Great Smog, Dec 5th-8th, caused many deaths including animals.
1953 East-coast floods caused by storm surge driven by hurricane force north-westerlies bringing exceptionally high tides.
1962/3 Snow fell from late Dec to late Jan to a depth of 12cm (5ins). Jan 1963 coldest month in 50 years. Coldest winter in Essex since 1740.
1964 Driest winter over England and Wales for 250 years.
1970 Classic Christmas snow fell on Christmas Eve to a depth of 12cm (5ins)
1976 Gales 27th Jan reached "hurricane" force.
1981 13th Dec lowest temperature recorded in 50 years with snow for 3 weeks
1987 2 days of snow in Jan gave 17cm (6.75ins) worst since 1963, country paralysed.
1990 Wettest winter in 50 years.
1991 Feb - snow fell to a depth of 37cm (14.5ins) - Greatest fall in Writtle for 50 years.
1992 Driest winter for 50 years at Writtle.

Spring (Mar. Apr. May.)

			30 Year Average		
Warmest Mean Temperature	1943,1945	10.3C	8.6C	v warm	1948 1952 1957 1959 1961 1989 1990 1992
Coldest Mean Temperature	1962,1984	7.1C	8.6C		
Wettest Year	1983	85.6mm	41.1mm	v wet	1979
Driest Year	1976	16.8mm	41.1mm	v dry	1956 1957 1974 1990

Memorable Springs

1947 Mar 4th even snow up to 17cm (6.75ins) deep.
1952 Mar 30th snow drifting up to 59cm (23ins) deep.
1985 May 26th storm with v large hailstones caused severe damage to crops.
1987 Severe frosts in early May caused damage to fruit trees in flower.
1990 Late frosts in April caused severe damage to fruit blossom.

Summer (Jun. Jul. Aug.)

			30 Year Average		
Warmest Mean Temperature	1947	17.8C	15.8C	v warm	1959 1976 1983 1989
Coldest Mean Temperature	1958	14.1C	15.8C	v cold	1962
Wettest Year	1987	97.8mm	49.5mm	v wet	(1941) 1958 1985
Driest Year	1975	11.0mm	49.5mm	v dry	1955 1959 1976 1983

Memorable Summers

1947 Exceptionally hot summer followed by cold, snowy winter & spring.
1953 June 2nd - Coronation Day - heavy rain an bitter cold.
1959 Very dry, hot summer.
1975 Very cold June with snow recorded at a cricket match in Colchester. Driest summer in 50 years began 1975/6 drought.
1976 Heatwaves and drought with Minister for Drought appointed. 2nd warmest summer.
1977 Violent thunderstorm night of 14th June - 38mm (1.5ins) of rain fell on Writtle in 1 hour.
1987 22nd August - violent storms in afternoon made it wettest day in 50 years, Chelmsford cut off and fruit crops damaged.

Autumn (Sep. Oct. Nov.)

			30 Year Average		
Warmest Mean Temperature	1978	11.6C	10.5C	v warm - none	
Coldest Mean Temperature	1952	8.5C	10.5C	v cold	1965 1974
Wettest Year	1960	113.8mm	52.7mm	v wet	1944 1974 1976 1984 1992
Driest Year	1978	13.7mm	52.7mm	v dry	1947 1956 1964 1985

Memorable Autumns

1958 Sep 5th electrical storm caused severe floods.
1968 Sep 15th severe floods - worst since 1953 in some areas.
1970 Wettest Nov in 50 years.
1987 Oct 16th - around 5am a "hurricane" hit Writtle with gusts up to 100mph. Severe damage to trees and buildings.

Yearly and seasonal totals and means are based on the Writtle 30 year average (1958-1987).

	Mean Temperature		Total Rainfall
Very Warm	1.1C above average	Very Wet	50 above average
Warm	0.6C above average	Wet	25 above average
Cold	0.6C below average	Dry	25 below average
Very Cold	1.1C below average	Very Dry	50 below average

MET. OFFICE COLLEGE, SHINFIELD PARK: TRAINING & NEW DEVELOPMENTS

The Meteorological Office College (MOC) provides a centre for professional meteorological training, primarily for staff from the UK Met. Office. It is situated just south of Reading, some 20 kilometres west of the Headquarters of the Met. Office itself, and lies within the pleasant, extensive grounds of Shinfield Park.

The prime objective of the MOC is to train its own Met. Office personnel at the various stages of their careers; we aim to get students coming through about once every 5 years for initial or continuation training. On most courses, however, a few places are reserved for students from other National Meteorological Services; the two-way exchange of ideas and "home practices" on these mixed courses serves to benefit all concerned.

Included in the above training, as well as the classical observing, forecasting and graduate met courses, are met engineering/electronics and technical courses, computing courses and commercial skills training. The College also runs an Air Traffic Services Observers' course, on behalf of the Civil Aviation Authority, for Air Traffic Control staff.

In addition, occasional one-week Co-operating Observers' courses are held at Shinfield Park. This course, open to non-Met Office employed personnel who submit climatological returns to the Office, aims to improve the skills of these observers in making and encoding weather observations for inclusion in national climatological records. More details about this course can be obtained from George Spence, Phil Wills or Shirley Hopkins at Bracknell.

As regards other courses, we have been developing a range of these to cater for the needs of a wider (paying Ed.) audience for meteorological training. In the last year or so we have run new courses for TV weather presenters, aviation instructors, school teachers (now meteorology forms part of the National Curriculum), trainees at an agricultural college, a private offshore geological survey company and even a one-day seminar on "snow and ice" for an engineering firm. The College is hoping to expand these in the coming months and, if sufficient demand exists, run a short (2 - 3 day?) course on basic meteorology for members of the public.

A few of you may have been to Shinfield Park on a Co-operating Observers' course in the last year or so and noticed the very smart, new restaurant and kitchen complex that was opened formally in November 1992. The previous restaurant has now become the games area, complete with a full size snooker table in the old kitchens. A new addition to the sports facilities has been the fitness room, complete with rowing machine, cycling machine, weights, skipping ropes and so on. The Squirrel's Dray (better known as the bar) still provides a relaxing atmosphere for a drink or two after such a "work-out" or after a game of squash, tennis, 5-a-side football or cricket, or even after a stroll around the grounds.

D R Kindred
Business Development Manager (Training)
Shinfield Park

NOTES

CAWS Beware - those of you using the CAWS data transfer format! There is a mistake in the example of coding at the foot of page 7 of the leaflet. Days with snow and hail should be coded as **5400** just as they would be when filling in the 3208b.

Wicks My colleagues in Quality Control have asked me to remind everyone to change the muslin and wick on the wet bulb regularly. If you find the muslin is drying out too quickly it may be necessary to boil it before use - first in washing-up liquid then in fresh water. Packs of wicks are enclosed with this Newsletter.

Figures Now that your 3208b forms are being typed onto diskettes by an outside contractor it is even more essential that your figures are easily readable. Cross-checking computer output with the 3208b's is time-consuming (and none of us have much of that commodity these days!).

THE WEATHER DIARY EXPLAINED?

Several observers have asked me to try to clear up the mystery of the "weather diary" so here are our up-to-date notes on the subject.

Everybody has their own particular way of recording the day's weather, some use Beaufort letters, some plain language. Some people note all the weather in a day, some only the "interesting" bits and some don't fill in the "diary" at all.

The weather diary constitutes a very important part of a station's records. It is frequently used to answer a wide range of climatological enquiries and is also a useful guide when checking possible errors on the 3208b return. An observer may, for instance, have entered a suspect figure in the rainfall total. If the figures entered were thought to be too high a check on the weather diary would be made and an entry of 'heavy rain all day' would confirm the rainfall total.

We realise that some of our observers are unable to complete a weather diary because of other commitments. In such cases even a limited diary would be very much appreciated. The diary should be confined to the reporting of weather phenomena such as thunderstorms, strong winds (especially if they have caused damage to property), hail, snow, fog, heavy rain or any other unusual weather features noticed during the day. If it is possible to include the times of commencement and ending of these exciting weather features we would be grateful.

The diary should give a clear, concise picture of what has happened during the day. Here are some notes and suggestions on the layout and content of the diary:

1. The diary can be completed in Beaufort letters, plain language or a mixture of both.

2. It should give a brief description of the whole day noting all the weather features which occurred.

3. What should be included in the weather diary?

a. Times of beginning and ending of precipitation, fog, thunderstorms, gales and other phenomena.

b. An indication of cloud cover and development.

c. Notes on unusual weather phenomena such as coloured dust after a period of rain.

d. Anemograph owners can include the maimum mean speed and gust, with their directions, during a gale.

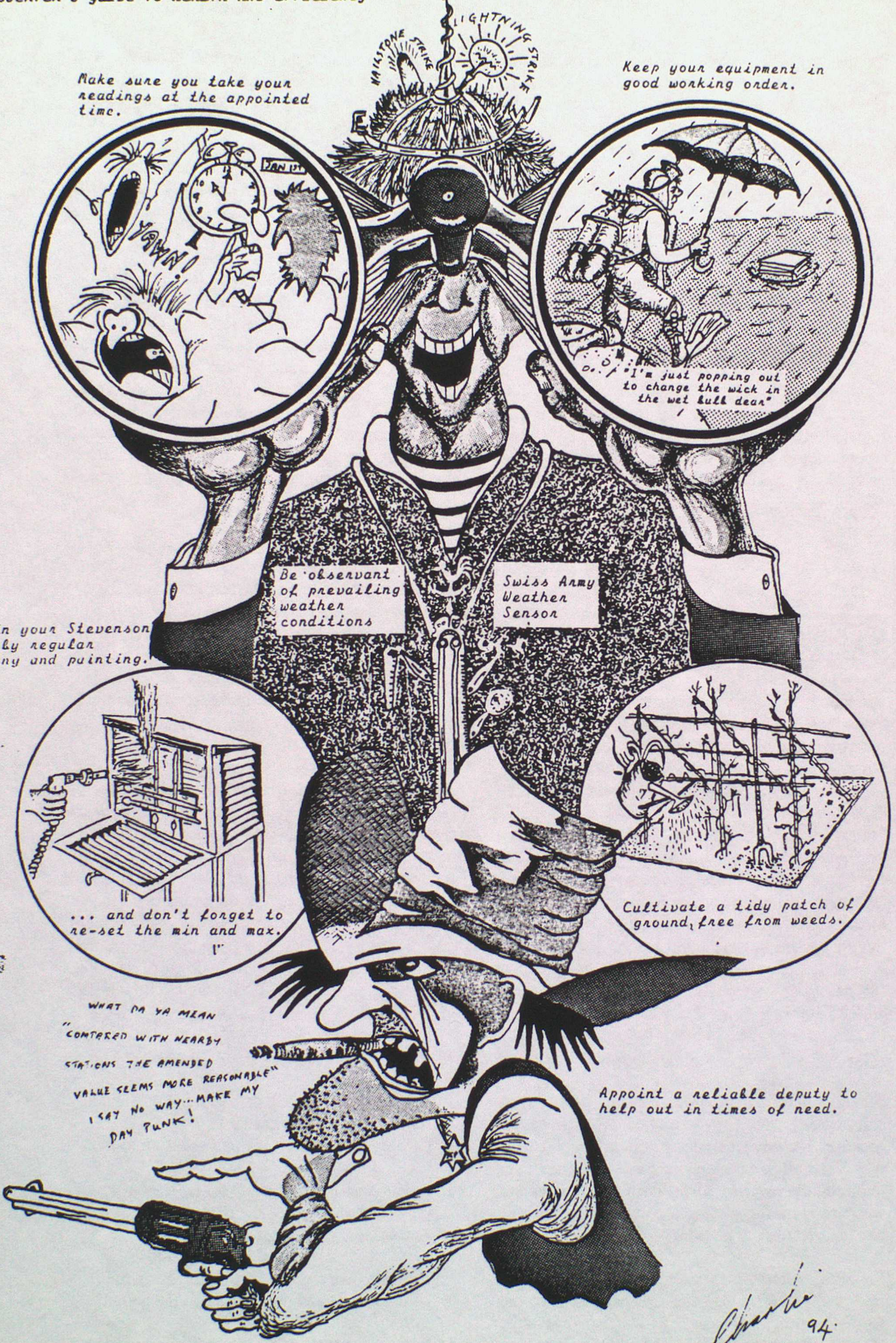
e. Details of extreme conditions. This type of information is particularly useful to our enquiries section. Any newspaper cuttings you wish to send would be of use. Please indicate whether you actually observed the event or if you are reporting 'second hand' an event which took place 'off site'.

f. Any change in the character of ice and snow cover is extremely useful information to us if you are able to give it. This includes melting, re-freezing, more snowfall or increase or decrease in snow cover.

If your station retains long-term weather records we would be interested to hear of any broken records during a particular month (eg highest ever March maximum temperature) with details of the date and figures involved. This information can be noted on a separate piece of paper and enclosed with the monthly return. Hopefully, they can be used in the annual Newsletter to observers.

We would also welcome any reports of interest from your local papers. These may cover severe weather conditions such as gales, floods, snow and frost or, indeed, any weather features including articles on yourselves.

THE OBSERVER'S GUIDE TO HEALTH AND EFFICIENCY


HAILSTONE STRIKE
LIGHTNING STRIKE
YAWN!
JAN 1st
"I'm just popping out
to change the wick in
the wet bulb dear"
WHAT DA YA MEAN
"COMPARED WITH NEARBY
STATIONS THE AMENDED
VALUE SEEMS MORE REASONABLE"
I SAY NO WAY...MAKE MY
DAY PUNK!

Be ready to detect and
record any unusual weather.

Make sure you take your
readings at the appointed
time.

Keep your equipment in
good working order.

Be observant
of prevailing
weather
conditions

Swiss Army
Weather
Sensor

aintain your Stevenson
creen by regular
stripping and painting.

... and don't forget to
re-set the min and max.

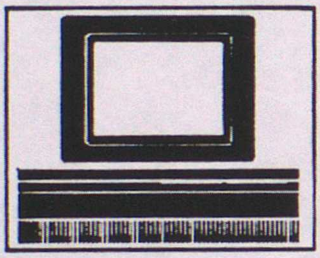
Cultivate a tidy patch of
ground, free from weeds.

Appoint a reliable deputy to
help out in times of need.

Charlie
94

SENDING DATA ON COMPUTER DISKETTE

In the newsletter (Sept. 1992), George Spence mentioned that the computer section of QC were producing a programme enabling data to be entered on a spreadsheet and sent on diskette. I expressed an interest in doing this and received instructions and diskettes. For the past few months I have been trying it out and thanks to the help and patience of Mrs Margaret Elms of Observation Provision (OP), I have now got it right. I thought I would write this note both to encourage those of you with access to computers to have a go, and to share some of the queries and snags I had so you don't have to ask or find them out for yourselves too.



I am lucky in having an IBM PS/2 Model 70 386 in my lab/office at work and have been using it (outside office hours, of course!) for my weather records for 3 years. I have developed a system using the spreadsheet available on "Symphony", a version (2.0) of Lotus 1-2-3. I use two basic sheets: "data" and "summary". I enter all my observations into the data sheet, which then carries out all the necessary calculations (ie RH/DP/VP's, correcting atmospheric pressure, means standard deviations, highs, lows and totals) and prints it out, see as an example, "MWR93-02". It also sorts the required data into a summary column showing the means, totals, highs, lows and dates for the month. This also forms the basic format for all my other "summary" tables, ie for each month, season and year, into which each month's summary column can be combined. These tables also have their own "summary columns" which calculate the means, totals, highs, lows and dates for the particular month, season or year covering the period of my records (ie since August 1983). See for example "CCFEBSUM" which is just a part of the sheet with all the Februaries in my records. I still have to add a lot of data into the system from earlier years.

Though now quite familiar with using such spreadsheets and the associated word-processor package, I'm not a computer buff, which explains why I had a few problems in transferring the data to disc in the required ASCII format. Those of you who are must forgive me for my naivety and for any incorrect use of jargon.

So, after expressing an interest in sending in data on disk I received the description of the Climatological Automatic Weather Stations (CAWS) format in which the Met. Office is able to receive data. Not only is it intended for use with CAWS but also for manually gathered data using most spreadsheets or word processors on personal computers, provided the file can be sent in ASCII code on 5.25 or 3.5 inch disks. Most computers, I believe, send the information to their printers in code similar to ASCII, so the ability to save a file in this code is usually (?) to be found in the Print commands (at least in Symphony).

The CAWS description gives the file naming convention, all the various codes required and the structure of the "message" in the file. The message consists of: a first header in which codes for the type of data, station number and dates are included, a second header listing codes defining the data in the columns underneath, eg 005=hour of observation, 230=RH, 305=10cm soil temp., 811=actual weather etc. and finally the data block itself, at the bottom of which is included a "totals" line.

To enable me to prepare a file each month for OP, I set up a new "base" spreadsheet that consisted of two areas. The first, on the left hand side (LHS), is for transferring ("combining") all my daily data "en bloc" for each month. The second area, to the right of the first, has the first and second headers at the top, selects the required data from the LHS, automatically adds it into the appropriate columns and adds up the values to give the totals line along the bottom.

Data element code 820 records the occurrence of significant weather 00-00h: the four phenomena snow or sleet, hail or ice, thunder and gale are reported in this order, as in Form 3208b, in a four-figure group, eg 1500 is a day with sleet and hail but no thunder or gales. In my data sheet I record these as separate columns, so for the Met. O. file it was necessary to add these together after first multiplying the snow or sleet code entry by 1000, those for hail or ice by 100, thunder by 10 and gale by 1.

Each month all I have to do is:

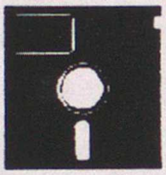
1. Retrieve my "base" spreadsheet file and amend the date in the first header.
2. Combine my data for the past month into the LHS.
3. Delete lines as appropriate for months with less than 31 days.
4. Activate the calculation process, where the spreadsheet selects and inserts into RHS columns the required data, and adds up the column totals and puts these into the bottom line.
5. Replace the formulae, in the cells in this RH

block, that carry out the calculations in (4) with the numerical values now present ("Range/Value/Copy" the whole area over itself).

6. Delete all the LH block columns.
7. Insert the Met. disk into the disk-drive and save as an ASCII file (in Symphony: amend "Print/Settings/Destination/File" to "CMO-MMYY.XXn", check "Range" & "Quit/Go/Quit").

Now set up, and after compiling my own monthly weather data tables, the above procedure takes me no more than a couple of minutes each month. I no longer copy out my data on Form 3208b. I still fill in the "Weather Diary" on its reverse side, however a "text" file with this information may be sent in on the disk too if you prefer.

Here are a few points and tips: if some seem strange their meaning will become apparent on reading the CAWS instructions:



a) Remember, the same rules apply to putting data into files as to filling in Form 3208b, eg throwing back the max. temp. and rainfall to the previous day.
b) At the moment OP only require data for 0900 GMT, so if you are keen enough to make observations at other times (like me at 2100), these I'm afraid, have to be disregarded. Thus max., min. etc should be for the 09-09h period, despite the provision for other observations in the CAWS codes, and no atmospheric pressure readings are required.
c) The order of the columns is not important though OP prefer them to be arranged in numerical order of the second header code number.
d) A trace of rainfall is entered as "0.01"mm. To ensure such traces show up and are not registered as "nils", the rainfall column should be formatted to two places of decimals, except the "total" cell, which should be one decimal place. This is so that the column width can be kept to 6 decimal places, assuming that there may be **monthly** totals of >100mm, but few, if any such **daily** totals! If there is, that particular day's entry will have to be specially formatted to one decimal place.
e) Where "9" oktas cloud is to be reported, this is still to be entered so, even though this gives an inflated total. It doesn't matter that all the "0"s to the left of significant figures is lost, eg in data element 820, significant weather (see above), ie when there is no snow or sleet, hail or ice nor thunder.
f) On my spreadsheet package (and most others?) carriage return line feed [CRLF] is automatically added at the end of a line ("row") of data.
g) Delete all headers (except those asked for), footers and margins (LH & RHS) from the data block and print format. This was my main problem - blank lines appeared before my data in the ASCII file even though I made sure I had eliminated them from my spreadsheet. This is because Symphony usually automatically includes two between header and footer and the main text or data block. These can be removed by "suppressing breaks" for headers and footers in the print format. The "space compression" facility does not help.
h) Reduce the spaces between figures in the data by reducing the column width to 6 characters (in spreadsheets there is usually a default width of 8 or 9). This is the minimum width: although it could be reduced further in a few of the columns, ie 5 characters for column 5 (the hour), 230 (RH) and 811 (day's weather) and even to 4 for 800 and 830 (cloud and visibility), there is the possibility of having to enter "88888", used when an observation is missing.
i) Use the "View File" facility in your Disk Operating System to check for such unwanted spaces as mentioned in (f) and (g). By simply printing out your file from your spreadsheet package you may be unaware of these.

Send a disk, marked for the attention of Margaret Elms, with the month's data filed on it, as usual, within a few days of the end of each month, in the padded envelope provided. Margaret will return the disk to you for further use after 3 months. Don't worry too much the first time you try this, almost certainly the data you send can be extracted, just requiring a bit of "fiddling" by Margaret. She will soon help you out if things aren't quite right.

I hope the above will be useful to those who want to give it a go. All the best.

Mike CINDEREY
Carlton-in-Cleveland
North Yorks. DCNN 2256

I am very grateful to Mike Cinderey for his description of how to get data into the CAWS format. In the future it may not be me but the Quality Control staff who receive and despatch the diskettes.

We are also very grateful to those observers who responded to my note in the Newsletter, we are following up the comments received and will contact respondents individually.

Margaret Elms

MWR93-02

Data from Carlton-in-Cleveland Climatological Station, North Yorkshire (DCNN 2256)

February 1993

Date	10cm Soil Temp		30cmSoil Temp		Maximum Temp		Minimum Temp		Grass Minimum		Notes on Temperatures: (approx time of max/mins)
	0900	2100	0900	2100	09-09	09-21	09-09	09-21	Sst-09	21-09	
Feb-93	C	C	C	C	C	C	C	C	C	C	
1	2.0	3.0	3.7	3.7	5.2	5.2	-2.1	-2.1	-5.6	-5.6	
2	2.6	4.0	3.5	3.9	9.7	9.7	1.1	1.1	-1.0	-1.0	
3	4.5	5.2	4.0	4.5	9.7	9.7	4.8	6.1	3.8	3.8	Sc Min @ 09h/2nd
26	3.8	3.9	4.8	4.9	4.5	4.5	0.7	0.7	0.0	0.0	
27	2.6	2.0	4.5	4.2	3.0	3.0	-2.9	-2.9	-4.6	-4.6	G M buried 08= -4.5,reset 09= -4.6
28	1.8	1.8	3.8	3.6	2.2	2.2	-3.0	-3.0	-4.6	-3.3	G M 27/2030; buried 08 = -3.3, reset 09= -2.7
High	7.4	8.0	6.7	6.7	13.6	13.6	8.5	8.5	5.4	5.6	
Low	1.8	1.8	3.5	3.6	2.2	2.2	-3.0	-3.0	-5.6	-5.6	
Mean	4.08	4.69	4.85	5.01	7.57	7.49	2.70	2.84	0.33	0.47	
St Dev	1.5	1.52	0.82	0.81	3.02	3.05	3.18	3.26	3.48	3.42	

Many observations were made as usual by Bronwyn Cinderey, a few by our family and some by Mr John Blackburn. My thanks to them all.

NB: ALL TIMES ARE GMT
"e" = estimate - see notes

No of days with Ground Frost	11	(10)
No of days with Air Frost	6	(6)
No of Freezing Days	0	0

"Mild, particularly at night"

Date	Dry Bulb Temp		Wet Bulb Temp		Rel Humidity		Vapour Pressure		Dew Point		00-24hr Weather Code	09h Cld Amt	09h Wind Directn/ Velocity		09h Code Present Weather/ Visibility	
	0900	2100	0900	2100	0900	2100	0900	2100	0900	2100						
Feb-93	C	C	C	C	%	%	mb	mb	C	C	SHTG	Okt	Deg/Knot			
1	2.9	2.5	2.8	1.5	98	82	7.4	6.0	2.6	-0.2	0000	7	0	0	1	6
2	4.9	6.7	4.1	5.7	87	85	7.5	8.4	2.9	4.4	0000	8	230	13	2	6
3	7.7	7.4	6.6	6.3	84	84	8.9	8.7	5.2	4.9	0000	6	230	11	3	6
26	1.4	2.4	1.3	1.9	98	91	6.6	6.6	1.1	1.1	5000	8	320	2	22	6
27	-1.9	-1.7	-3.0	-2.5	75	81	4.0	4.4	-5.8	-4.5	5000	2	340	7	2	9
28	-0.6	1.2	-1.6	0.6	79	89	4.6	5.9	-3.8	-0.5	5010	6	360	7	26	9
High	9.6	10.7	9.2	10.1	98	97	11.3	11.9	8.8	9.5						
Low	-1.9	-1.7	-3.0	-2.5	60	67	4.0	4.4	-5.8	-4.5						
Mean	4.93	4.78	4.08	3.94	86.3	86.4	7.65	7.56	2.77	2.65						
St Dev	2.89	2.86	2.97	2.86	9.2	7.9	1.86	1.76	3.57	3.25						

Mean Cloud (oktas,%)= 6.7 83

Number of Days With:

Sleet/Snow falling	(S) =	5
Hail/Ice Pellets	(H)=	0
Thunder	(T)=	1
Gales (estimated)	(G)=	0

etc.

CCFEBSUM

Monthly Summary of Observations at Carlton-in-Cleveland, N Yorks.

	MONTH/SEASON/YEAR		FEBRUARY 1993		February Summary 10-YR: 1984-1993	
	OBSERVATIONS @ 0900h GMT		Value	Date/ D Mean	Value	Date/ D Mean
1.	Highest Temperature	C	13.6	7	14.7	23/90
	Lowest Maximum	C	2.2	28	-1.3	10,11/85
	Mean Maximum	C	7.57		6.42	
5.	Number of Days with Ground Frost		11		16.8	
	Number of Days with Air Frost		6		10.0	
	Number of Freezing Days		0		0.5	
8.	Total Rainfall	mm	24.2		46.2	
	Largest Daily Fall	mm	7.0	28	34.4	24/89
	Number of Rain Days		6		13.0	
	Number of Wet Days		5		9.0	

etc.

February 1993　　　　CMO-0293.CC1　　　　DMO93-02

```
99914   2256 11993 20002 30000 40020
    4      5   120   121   200   207   208   220   221   230   240   305   315   334   402   410   800   811   820   830
    1      9     0     0   2.9   5.2  -2.1   2.8   2.6    98   7.4   2.0   3.7  -5.6   0.0   0.0     7     1     0     6
    2      9   230    13   4.9   9.7   1.1   4.1   2.9    87   7.5   2.6   3.5  -1.0   0.0   0.0     8     2     0     6
    3      9   230    11   7.7   9.7   4.8   6.6   5.2    84   8.9   4.5   4.0   3.8   0.0   0.0     6     3     0     6
.........................................................................................................................
   26      9   320     2   1.4   4.5   0.7   1.3   1.1    98   6.6   3.8   4.8   0.0   3.0   0.2     8    22  5000     6
   27      9   340     7  -1.9   3.0  -2.9  -3.0  -5.8    75   4.0   2.6   4.5  -4.6   5.3   3.0     2     2  5000     9
   28      9   360     7  -0.6   2.2  -3.0  -1.6  -3.8    79   4.6   1.8   3.8  -4.6   7.0   8.0     6    26  5010     9
 9999    252  6270   147 137.9 212.0  75.6 114.3  77.5  2416 214.2 114.1 135.8   9.3  24.2  11.2   187   248 25010   200
```

COURSE C03/92

The weather during the week 22nd to 26th March 1993 was carefully watched by fourteen climate observers at Shinfield Park near Reading.

Course C03/92 got off to a bad start as Richard Aspinall from Malham Tarn became ill during the very first talk!

Of the remaining fourteen Course members, six were employed by Local Authorities as full or part-time observers, five were students on a year's release from their degree studies and three were owners of stations co-operating under the scheme.

We received very thorough and friendly lectures on thermometry, clouds, visibility, wind, pressure, sunshine and a plethora of observing techniques and procedures. Derek Hancock from Commercial Services at Bracknell gave us a very informative talk on the uses to which our figures are put.

Members saw an array of the technology aids to observing and forecasting, and were even let loose on the computers in the evenings if they so wished. The Met Office College library was fascinating and available for use. So apart from the pearls of wisdom gleaned during the day, the remaining hours to 11 p.m. could be taken up with an abundance of study facilities. David, from Teignmouth, was a veritable expert on the O.D.S. (Outstations Display System) keyboard.

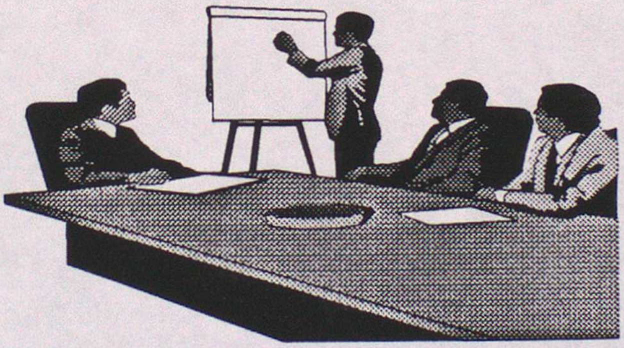
On four mornings members performed an observation, realising in the process just how the human body and its proximity can cause variance in readings. We learned the pitfalls when using the F. 3100 (go on - look that one up!) and received useful exercises in weather coding and completing the monthly weather sheet (3208b). No matter how clever one thought one was, one picked up a lot from each session. In my own case, years of familiarity has meant years of contempt!! The videos shown aided the talks.

We hear a distinct murmur that the powers that be may be contemplating making the residential courses a thing of the past? We hope not! People learnt a lot and benefited from being with others of like mind but, above all, purpose and seeing "where one fitted in", was so very important.

The visit to HQ Bracknell was simply bewildering. The morning was packed with features. After a first briefing by Bruce Hancock of Quality Control we were all able to meet with our respective Q.C. staff. Then with Derek Hardy, the Press Officer, we visited the telecommunications Centre in the Richardson Wing, and then the Central Forecast Office. This latter office contained all of the departments we hear of so often - immediate forecasts, short range, long range, shipping etc. etc. We watched an operative "making sense" of the weather radar and saw the Storm Tide Forecasting Service. Even the foyer displays were worth seeing on their own!!

Alright, "longer" may have been the cry but honestly many days would be needed by most of us to even start to appreciate the complexities of the technology. Suffice to say we begin to appreciate the vastness of the Met. Office and its many facets.

The course leaders, Messrs Gillham and MacGregor, were able to impart their considerable knowledge to us in an understandable and humorous way. Even a visit to the "Bell and Bottle" yielded other than alcoholic enjoyment while George Spence came to see us on Monday and by Thursday probably wished he hadn't!



It goes without saying that the accommodation and food were what was expected. One of us is still on a diet of brown bread and sauce!

To conclude, I need only add that on the Friday morning Jeremy Gillham and Ian MacGregor were serenaded to words written by a course member to the tune of "O, Susannah", - tribute indeed and fully relative to the spirit of everyone who attended at Shinfield Park.

It is realised all observers (and deputies, when there be such valued commodities) are invited to attend courses. George Spence and Shirley Hopkins go to a lot of trouble allocating people to the various courses and it is our simple job to support their efforts and apply. The "mixing" is not just meteorological and the week is so worthwhile and useful. On a very personal level - thank you all fellow students for your thought and friendship. To meet all the young people was indeed a privilege.

Other course members were:

Richard Aspinall - Student, Malham Tarn, Yorks.
Gilly Thompstone - Student, Malham Tarn, Yorks.
Martin Rivers - Student, Betws y Coed, Gwynedd
Kevin Lahiff - Student, East Bergholt, Suffolk
Lorna Kerrison - Student, Slapton, Devon
Sue Smith - Student, Nettlecombe, Somerset
John Adams - Observer, Eastbourne, Sussex
Les Pembery - Observer, Hastings, Sussex
Helen Seton - Observer, Margate, Kent
Mike Long - Observer, Lowestoft, Suffolk
David Targett - Observer, Teignmouth, Devon
Glynne Collins - Observer, Rustington, Sussex
Mike Cinderey - Observer, Carlton in Cleveland
Jack Crouch - Observer, Penton, Cumbria

David Fellowes
Clarborough, Notts.

SHORTS

Extracts from Symon's Met Mag, 1916 Edition

1. December as the first winter month is not only a convenience to meteorologists but an ancient belief in England. The daily press recently called attention to the fact that on December 1st, following a medieval custom, the Town Crier of Colchester ushered in "Winter" by walking through the town ringing his bell and declaiming the lines:

> Cold December hath come in
> Poor people's backs are clothed thin
> The trees are bare, the birds are mute
> A pot and toast would very well suit.

2. Rainfall observing in the Egyptian desert apparently offers some attractions to the hard-working members of the R.A.M.C. now stationed somewhere thereabouts. One of these writes to us:- "I should think the easiest job in this part of the world would be that of Rainfall Observer. For ten months of the year he could sleep in peace, waken up in November, get the rain gauge out, set it up in a suitable place and then lie down again keeping one eye open in case rain ***should*** come on. And then in the middle of January he would demobilize the gauge, measure the minute fraction of an inch of water, send in his report and curl up for another long sleep".

Lyonshall Rainfall

In 1993 Lyonshall in Herefordshire had the lowest February/March rainfall for 47 years.

Quote

Quote taken from the obituary of Sir Napier Shaw by E. Gold (Quarterly Journal, Royal Met. Society 1945).

"I suppose the people who made these observations did not realise how valuable they would be". Shaw replied, "It was the people who did ***not*** make the observations who did not realise their value".

AUTUMN AT HALESOWEN

Autumn 1993 was the second most inclement on record for Halesowen, behind that of 1965. In almost all respects features were worse than expected.

Temperatures were severely depressed, the mean daily of 8.0 C (46 F) being 1.9 C below average and the lowest on record for autumn. Both the mean maximum at 11.4 C (53 F) and the mean minimum at 4.6 C (40 F) were the lowest recorded here in 38 years.

Rainfall totalled 233mm (9.17 ins), well above normal and the wettest since 1987, though rain days were slightly down on average. However, no day produced a fall in excess of one inch (25.4 mm), the heaviest fall being the 21.6 mm (0.85 ins) on November 13th.

Sunshine totalled 260 hours, 32 hours below average and the dullest since 1984, with 28 sunless days, the same as last year, but still 8 above the 30-year mean.

Snow or sleet occurred on 4 occasions, the highest incidence since 1985, though no snow lay on the ground. The last autumn with lying snow was in 1988.

Air frosts at 19 were well above the expected 8, the highest number on record, whilst ground frosts totalled 30, ten above normal and the worst since 1988.

Fog occurred on 8 mornings and thunder on 2 days, both close to the normal for autumn.

AROUND THE WORLD IN 100 MINUTES

Satellites now make a contribution to many aspects of everyday life - entertainment, communications, navigation, earth observation and military use.

They also make an invaluable tool for meteorologists. The first major satellite involvement with the weather dates back to 1960 when the world's first meteorological satellite, TIROS-1, was launched by the United States, only three years after the launch of the first man-made satellite, Sputnik.

Sophisticated

Three decades on, the spacecraft, sensors, communication links and data of the TIROS-1 bear little resemblance to the sophisticated technology of today. Meteorological organisations world-wide now use information from more than half a dozen dedicated satellites and several others.

Five geostationary satellites are positioned at intervals around the Equator. They appear to be stationery over the same spot because they orbit at the same rate as the Earth rotates.

Meteorologists also use polar orbiting satellites which orbit the Earth every 100 minutes. Once they have passed directly over the UK in the north-south direction, it is around 12 hours before they reappear, this time travelling in a south-north direction. This pattern looks similar to the winding of a ball of string.

The polar satellites orbit at a height of around 900 kilometres. They provide more-detailed images than the geostationaries which orbit at 36,000 kilometres.

But the geostationaries, which include Meteosat, operated by the European Eumetsat organisation and stationed over the Greenwich Meridian, produce images every half hour from the same spot. They enable meteorologists to track specific weather features much more closely.

Vital

When combined, the total information provides an excellent overview of the world's weather and is a vital tool for the forecasters.

It is the information from Meteosat and the United States' two polar orbiters - called NOAA-11 and NOAA-12 - which is most widely used by British meteorologists. The public frequently sees Meteosat images, which are shown on television weather forecasters.

The images from the two types of satellite come from an instrument called a radiometer which measures amounts of radiation - heat, light, etc..

Rapid

At a given instant they receive and measure the radiation coming from just one small area; a scanning mechanism then allows large numbers of the small elements to be viewed in rapid succession and a picture to be built.

The measurements are converted into images of clouds, land, oceans, atmospheric water vapour, dust and smoke which can be interpreted by meteorologists.

The image data are relayed from satellite to ground in both digital and analogue forms. The digital data contain maximum detail but require more complex reception and processing. The analogue data can be economically displayed on a facsimile machine or an inexpensive computer but are not as clear or as easy to interpret.

Data

Some of the weather satellites also have a role in the collection and relay of weather data from remote locations using Data Collection Platforms (DCP).

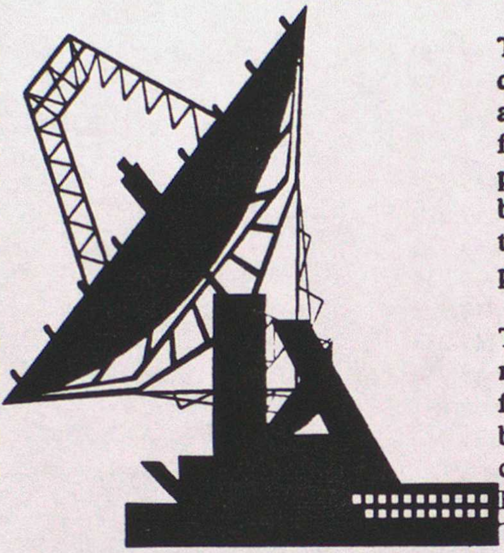
These may be at a fixed location or on board a ship or aircraft. The system enables the observations to be quickly available, from sites which would otherwise be inaccessible.

One type of DCP is the Aircraft Satellite Data Acquisition and Relay (ASDAR) now installed and in daily use in a number of aircraft operated by the major airlines.

It automatically compiles messages specifying time, position, altitude, air temperature, wind speed and direction which are relayed to a ground station via a geostationary satellite every few minutes.

Thruster motors

The Meteosat satellite is also used to disseminate meteorological data and simple pictures to users in the developing world for whom conventional communications are not practical.



The orbit of the satellites has to be adjusted frequently using small thruster motors activated by staff on ground stations. The lifetime of the satellites is often dictated by the amount of rocket fuel which can be carried or by instrument failure.

The polar orbiters have a two to three-year operational life and the geostationaries can last four years or longer. The fifth, and latest, Meteosat, MOP2, was launched successfully in 1991.

Climate research

Aside from their important roles in weather forecasting and data reception and despatch, the satellites are also playing an increasingly important role in climate research.

Two years ago Europe's first Earth scanning satellite which was designed to increase knowledge of the environment, oceans and climate, was launched.

The £500m ERS-1 is specifically monitoring pollution, sea surface temperature, the destruction of the rain forests, the size of the polar ice caps along with wave height, the circulation of currents and wind speeds over the oceans. The information is being incorporated in computer climate models by research scientists all over the world.

POSTCARD FROM SPACE

Satellite pictures from 36,000 km up in space are now available on demand to anyone with a fax machine, thanks to the Met. Office and state-of-the-art technology.

The press of a fax machine button will give instant access to the latest images from the Meteosat geostationary satellite high above the junction of the Greenwich Meridian and Equator. The images show at a glance the cloud banks and frontal systems as they sweep across the UK from the Atlantic or Europe - and reveal what is on the way.

Fax bank

MetFAX also provides weather forecast charts to the same scale, to complete the picture, showing weather fronts and isobars.

The MetFAX service is designed for everyone with an interest in the weather for their business or pleasure activities, but will be of particular use to teachers, yachtsmen and private pilots.

The satellite images are received every half hour from space and processed by the Met. Office computer complex at Bracknell, Berkshire. Three images daily are then relayed electronically to a specialised "fax bank" computer provided by Vodata, part of the Vodafone group, which can then be accessed by anyone with a fax machine. The MetFAX satellite imagery has its own telephone numbers. An explanation of how to interpret the image is also available.

(Outlook July 1993)

METFAX NUMBERS

MetFAX and **Weathercall** calls are charged at **36** pence per minute cheap rate and **48** pence per minute at all other times (including VAT). Satellite images typically take six minutes.

MetFAX	
Index page	0336 400 400
User guide	0336 400 428
Atlantic infrared	0336 400 429

MetFAX Education	
Index page	0336 400 480
User guide	0336 400 438
Atlantic infrared	0336 400 439

MetFAX Marine	
Index page	0336 400 401
User guide	0336 400 498
Atlantic infrared	0336 400 499

MetFAX Aviation	
Index page	0336 400 501
UK infrared/visible	0336 400 537
User guide	0336 400 538
Atlantic infrared	0336 400 539
MetFAX Helpline	0344 854435

WEATHERCALL NUMBERS

Satellite	0891 449 936
National Forecasts	0891 449 900 Today 0891 449 935 5-days
Local 5-day Outlook	
South East England	0891 449 928
South West England	0891 449 929
Wales	0891 449 930
North West England	0891 449 931
North East England	0891 449 932
Scotland	0891 449 933
Northern Ireland	0891 449 934
Index for 27 areas	0891 449 949
Weathercall Fax help desk	071 975 9000

LETTERS

Dear Mrs Hopkins

RE: SPARE PARTS FOR AN OLD NEGRETTI & ZAMBRA HYETOGRAPH

I would be most grateful if you would ask in your next Climatological Observers Newsletter if anyone has a spare float and chamber for an old Negretti & Zambra Hyetograph which is no longer required. At present I am restoring a Hyetograph and, unfortunately these parts are missing.

If anyone can help would they please contact Sean Clarke or Richard Brooks (Tel. 0344 856849) or write to The Met. Office, Rainfall Consultancy, Johnson House, London Road, Bracknell, Berkshire RG12 2SY.

Yours sincerely,

Sean Clarke

STOCK AND PRICE LIST
FOYER SHOP

We now have a shop in the foyer of the Met. Office Headquarters building. As Met. Observers you are welcome to buy from the shop at discount prices.

BOOKS	Price	Discount Price
The Spotter's Guide To Weather Usborne. 12yrs upwards-no top limit	£2.99PB	£2.50
The Usborne Book Of Weather Facts 8yrs upwards-no top limit	£2.75PB	£2.25
The Story Of Weather - Giles	£9.95PB	£5.00
The Great British Obsession - Wilson	£12.95HB	£9.50
The Surrey Weather Book - Currie Illustrated	£7.50PB	£6.00
The Kent Weather Book-Currie Illustrated	£9.95PB	£7.95
The Sussex Weather Book-Currie Illustrated	£9.95PB	£7.95
The Essex Weather Book-Currie Illustrated	£9.95PB	£7.95
The Norfolk and Suffolk Weather Book-Currie - Illustrated	£9.95PB	£7.95
Pilot's Weather Guide - Holford	£9.95HB	£7.95
Air Rider's Weather - Watts	£14.99PB	£12.00
Meteorology and Flight - Bradbury	£14.99PB	£12.00
Understanding Flying Weather - Piggott	£7.99PB	£6.50
Yachtsman's Weather Guide - Holford	£9.95HB	£7.95
Weather at Sea - Houghton. (2nd Edition)	£8.95PB	£7.50
Wind Strategy - Houghton	£9.95PB	£8.50
Practical Weather Forecasting (for sailing) - Katnetski	£16.95HB	£13.50
The Weather Companion - Lockhart	£8.95PB	£7.50
The World Weather Guide - Pearce & Smith Tables and Text.(3rd Edition)	£14.99PB	£12.00
The Changing World of Weather - Guinness	£14.99HB	£12.00
Weather Journals of a Rutland Squire	£14.95PB	£10.00
Watching the World's Weather Burroughs	£17.50HB	£14.00
Forecaster's Reference Book	£15.00HB	£12.00

The Meteorological Glossary	£20.00PB	£17.00
The Observer's Handbook.	£15.95HB	£12.50
Cloud Types for Observers	£13.75 Folio	£10.50
Climate, History and the Modern World - Lamb	£13.99PB	£11.00
The Human Impact of Climate Uncertainty - Maunder	£10.95PB	£8.50
Spacious Skies - Scorer	£20.00HB	£16.00
Bluff Your Way in Weather Forecasting	£1.95PB	£1.50
Guinness Astronomy - Moore	£12.95HB	£10.00

FOR YOUNGER READERS

Usborne Science and Experiments Weather and Climate - Watts & Wilson Ages 8 to 12.	£4.50PB	£3.60
Eyewitness Guide to Weather Ages 8 to 12	£8.99HB	£7.50
Weather and Climate - Mason	£7.95	£6.50
Science is Fun-Weather - Catherall Ages 5 to 7	£5.50HB	£4.50
My Book About Weather - Jackson - Ages 5 to 7	£6.50HB	£5.00

PB = Paperback HB = Hardback

MERCHANDISE ITEMS

Met. Office Golf Umbrella	£17.95	£15.00
Standard size Met. Office Umbrella	£16.45	£13.50
Brass Headed Compass Umbrella	£24.95	£19.95
Brollymates	£8.50	£6.50
Shipping Areas Tea Towel	£2.95	£1.60
Toy Rain Gauge	£9.95	£7.00
Met. Office 'Windmaster' Kite	£10.95	£10.00
Light-Powered Wooden Kits	£14.95	£11.95
Bottle Insulators£9.95	£7.00	
Snow Symbol Long Scarves£8.65	£7.00	
Snow Symbol Ski Hats£4.95	£3.50	
'Storm in a Teacup' Mug (MOSSA)	£1.95	£1.50

(Regret that the above item is not available by post)

CLOTHING ITEMS

Sizes
S=29-32" M=33-37" L=38-41" XL=42-45"
(MOSSA)=Scarlet, Burgundy, Royal Blue or Bottle Green

T Shirt 'Here Comes the Sun'	£5.95	£4.00
T Shirt 'Happiness is a Warm Front' on map (MOSSA)	£5.95	£5.00
T Shirt 'I'm Wrapped in Sunshine' (MOSSA)	£5.00	£4.00
Sweat Shirt-small cloud logo and 'Happiness is a Warm Front' embroidered	£13.95	£10.00

MISCELLANEOUS ITEMS

Cut out and make Tarquin Globes	£2.95	£1.50
Royal Met Society 1994 calendars (or £2.80 each for 5 or more)	£3.50	£3.50

BRACKNELL PUBLICATIONS

'Your Holiday Weather'	£2.50
'Pocket Register' for observations	£4.60
April 1988 Met. Magazine- Report on the Great Storm of Oct 16 1987	£2.00
Hydrological Memo. 44 - UK Month by Month Rainfall	£3.00
'Scotland's Climate - Some Facts and Figures'	£3.60

Climate Memos.

UK Humidity, dew Point etc.	£6.00
No. 73 Maps of Average Temperature UK	£3.50

Climate Memos - on other weather elements are usually available - please enquire.

Climate of Great Britain Series - all map available	£3.50 each

Orders to:

The Met Office
Foyer Shop
HQ Building
London Rd.
BRACKNELL
RG12 2SZ
TEL.0344 85 4074. FAX. 0344 85 4840

Terms:

Cheque or PO with order. Cheques payable **'Public Sub Acct. HMG 4712'**. Please add 85p per order towards p&p (£2.50 0verseas), unless a different sum has been quoted.

UK WEATHER FOR 1993

JANUARY	A very mild month with temperatures well above normal making this the 5th equal mildest this century. Rainfall was near to normal but sunshine hours were low. It was a windy month though not as windy as January 1990. On 13th January a gust of 94 knots (109 mph) was recorded at Kirkwall in the Orkneys.
FEBRUARY	A dull but exceptionally dry month. In England and Wales it was the driest February since 1986 with only 28% of the average rainfall. Temperatures were significantly above normal almost everywhere. Winter '92/'93 mild, dry (only 75% of average rainfall in many places) and one of the dullest since '71/'72.
MARCH	This was the third month and the sixth successive March with above average temperatures. Rainfall was substantially below normal with only 36% of the average fall in England and Wales making it the driest March since 1990. Taken together February and March were the driest since 1939.
APRIL	This was the warmest April since 1987 and the 7th warmest (but also the 7th wettest) this century. Rainfall was well above normal being 160% of the average in the south.
MAY	Another warmer but wetter than average month and, generally, the wettest May since 1983. Spring as a whole was the 7th warmest this century in central England while rainfall was about average.
JUNE	The wettest June since 1987 but, again, markedly warmer than average. Some of the best weather of the summer was had this month.
JULY	This was the first month this year with slightly below normal temperatures. Rainfall amounts were much higher than normal with 134% of the average falling in England and Wales.
AUGUST	The second cool month in a row and the coolest since 1986 but it was a dry month (only 76% of average rainfall) and relatively sunny (112% of the average). Summer was the first cool one since 1988 and significantly wetter than those of 1989, 1990 or 1991 but drier than 1992. The most disappointing summer since 1988.

SEPTEMBER	A cool, dull and wet month. This was the coolest September since 1986, the wettest since 1981 and the dullest since 1984. Rainfall was 158% of the average whilst sunshine was only 85%.
OCTOBER	Again, colder than average but after an extremely wet start the month's rainfall total was only a little above normal whilst it was exceptionally sunny. Temperatures were 2.3 deg C below normal and rainfall 120% of the average. This was the sunniest October since 1971 with 122% of the average.
NOVEMBER	This was the 5th successive month to be colder than average and the coldest November since 1985. Both rainfall and sunshine amounts were near normal. Autumn 1993 was the 4th coldest this century and the coldest since 1952. Autumn's rainfall was 120% of the average placing it in the "wet" category whilst sunshine was near average.
DECEMBER	December was the first month since June to be warmer than average but was the wettest month of the year. Average temperatures were 1.3 deg C

TRAINING NEWS

By the time you read this newsletter four of the planned courses, for this academic year, will have taken place. I am pleased to say that the response to the courses has been generally very good and the feedback from the students encouraging . Unfortunately, however, only eleven students, out of sixteen, were able to attend the course in January. I appreciate there was a good reason for each observer who was forced to cancel but, as replacements were not available, the shortfall was commented on by College staff. We are fighting a rearguard action to retain courses for Climatological Observers so **please**, once you have booked on a course, make every effort to attend.

As I mentioned in last summer's news letter it looks like training in the future will have an element of distance learning. Staff at the Met. Office College are working on the project but to date we have had little or no material to comment on. We have been assured that courses will continue until distance learning has been tried, tested and proved to be an adequate replacement. It may be that the combination of distance learning and a short time at the College will prove to be the best mix.

The good news is that we have been allocated five courses for the 94/95 academic year, the dates are listed below. The Instructors are currently working on the timetables and it is possible that the course will be shortened. The aims and objectives will still be met and I am sure you will find a course good value. Further details and application forms will be sent out in May but in the meantime pencil the dates in your diary.

CO1	17 - 21 October	1994	CO4	22 - 26 May	1995
CO2	23 - 27 January	1995	CO5	10 - 14 July	1995
CO3	20 - 24 March	1995			

George Spence